Q1: What is PHP?

A: PHP (Hypertext Preprocessor) is a serverside scripting language used for web development. It is embedded within HTML and used to manage dynamic content, databases, session tracking, and more.

Q2: Explain the evaluation of PHP.

A: PHP has evolved from a simple scripting language to a powerful tool for web development. It started as a small opensource project, later expanding its capabilities and integrating with databases and other technologies. It is widely used due to its flexibility, ease of learning, and compatibility with various platforms and databases.

Q3: How do you start and end PHP code in an HTML file?

A: PHP code is written within `<?php ... ?>` tags. For example:

php

```
<?php
  echo "Hello, World!";
?>
```

Q4: What is the significance of semicolons in PHP?

A: Semicolons are used to terminate statements in PHP. It helps the parser understand the end of each instruction.

Q5: How do you define a variable in PHP?

A: Variables in PHP are defined using the `$` symbol followed by the variable name. For example:

php

```
$name = "John Doe";
```

Q6: What is an array in PHP?

A: An array is a data structure that can store multiple values in a single variable. PHP supports both indexed (numerically indexed) and associative arrays (keyvalue pairs).

Q7: Explain the anatomy of an array in PHP.

A: An array consists of keys (indexes) and values. In indexed arrays, keys are numerical, while in associative arrays, keys can be strings. Example:

php

```php
$indexed_array = [1, 2, 3];

$associative_array = ["name" => "Alice", "age" => 25];
```

Q8: How do you create an indexbased array in PHP?

A:

php

```php
$fruits = array("Apple", "Banana", "Mango");
```

Alternatively:

php

```php
$fruits = ["Apple", "Banana", "Mango"];
```

Q9: How do you create an associative array in PHP?

A:

php

```php
$person = array("name" => "John", "age" => 30, "gender" => "male");
```

Alternatively:

php

```php
$person = ["name" => "John", "age" => 30, "gender" => "male"];
```

Q10: How do you access the first element of an indexed array?

A:

```php
$fruits = ["Apple", "Banana", "Mango"];
echo $fruits[0]; // Outputs: Apple
```

Q11: How do you access an element in an associative array?

A:

```php
$person = ["name" => "Alice", "age" => 25];
echo $person["name"]; // Outputs: Alice
```

Q12: How can you loop through an indexbased array using a `for` loop?

A:

```php
$numbers = [1, 2, 3, 4];
for ($i = 0; $i < count($numbers); $i++) {
    echo $numbers[$i];
}
```

Q13: How do you loop through an indexbased array using a `foreach` loop?

A:

```php
$fruits = ["Apple", "Banana", "Mango"];
foreach ($fruits as $fruit) {
    echo $fruit;
}
```

Q14: How does the `each()` function work with associative arrays?

A: The `each()` function returns the current keyvalue pair of an array and moves the internal pointer to the next element. Note: `each()` is deprecated as of PHP 7.2.

php

```php
$person = ["name" => "John", "age" => 30];

while ($element = each($person)) {

  echo $element['key'] . ": " . $element['value'] . "<br>";

}
```

Q15: How do you loop through an associative array using a `foreach` loop?

A:

php

```php
$person = ["name" => "Alice", "age" => 25];

foreach ($person as $key => $value) {

  echo "$key: $value<br>";

}
```

Q16: What does the `array_push()` function do in PHP?

A: `array_push()` adds one or more elements to the end of an array.

php

```php
$fruits = ["Apple", "Banana"];

array_push($fruits, "Mango");
```

Q17: How does the `array_merge()` function work?

A: `array_merge()` merges two or more arrays into one.

php

```php
$array1 = ["a", "b"];
```

```
$array2 = ["c", "d"];

$result = array_merge($array1, $array2);
```

Q18: How do you capture form data using PHP?

A: Form data is captured using the `$_POST` or `$_GET` superglobals, depending on the form's `method` attribute.

html

```html
<form method="post" action="submit.php">

  <input type="text" name="username">

  <input type="submit">

</form>
```

php

```php
// submit.php

$username = $_POST['username'];

echo $username;
```

Q19: What is the difference between `$_POST` and `$_GET` in PHP?

A: `$_POST` is used to collect data sent via HTTP POST method, while `$_GET` collects data sent via the HTTP GET method. Data sent via `$_POST` is not visible in the URL, while `$_GET` displays the data as query parameters in the URL.

Q20: How do you handle multivalue fields like checkboxes in PHP?

A: You can name checkboxes as an array (e.g., `name="hobbies[]"`) to capture multiple values.

html

```html
<form method="post">

  <input type="checkbox" name="hobbies[]" value="Reading"> Reading

  <input type="checkbox" name="hobbies[]" value="Sports"> Sports

  <input type="submit">

</form>
```

```php
php
  if (isset($_POST['hobbies'])) {
    foreach ($_POST['hobbies'] as $hobby) {
      echo $hobby . "<br>";
    }
  }
```

Q21: How do you capture and display selected options from a `<select>` dropdown with multiple values?

   A:

```html
html
  <form method="post">
    <select name="colors[]" multiple>
      <option value="Red">Red</option>
      <option value="Green">Green</option>
      <option value="Blue">Blue</option>
    </select>
    <input type="submit">
  </form>
```

```php
php
  if (isset($_POST['colors'])) {
    foreach ($_POST['colors'] as $color) {
      echo $color . "<br>";
    }
  }
```

Q22: How do you create a file upload form in PHP?

A:

html

```html
<form action="upload.php" method="post" enctype="multipart/formdata">
    <input type="file" name="fileToUpload">
    <input type="submit" value="Upload File">
</form>
```

Q23 : Explain the `$_FILES` superglobal in PHP.

A: The `$_FILES` superglobal is used to access information about files uploaded through a form. It contains details such as the file's name, type, size, and temporary location.

php

```php
$fileName = $_FILES['fileToUpload']['name'];
$fileTmpName = $_FILES['fileToUpload']['tmp_name'];
```

Q24: How can you redirect to another page after form submission in PHP?

A: You can use the `header()` function to redirect after form processing.

php

```php
header("Location: success.php");
exit();
```

Q25: What should be done before using the `header()` function to avoid errors?

A: Ensure that no output (like HTML or echo statements) is sent before using the `header()` function. The function must be called before any other output.

Q26: What is a constant, and how is it defined in PHP?

A: A constant is a name or identifier for a simple value that cannot be changed during the execution of the script. It is defined using the `define()` function. Example:

php

```php
define("PI", 3.14);
```

Q27: List different data types supported in PHP.

A: PHP supports the following data types:

String

Integer

Float (Double)

Boolean

Array

Object

NULL

Resource

Q28: Give an example of using a float in PHP.

A:

php

```php
$price = 10.99;
```

Q29: What is the difference between `==` and `===` in PHP?

A: `==` checks if the values of two variables are equal, while `===` checks if the values and the data types are both the same.

Q30: Write an expression using arithmetic and assignment operators.

A:

php

```php
$x = 10;
$y = 5;
$result = $x + $y; // Arithmetic operator
$x += $y;        // Assignment operator
```

Q31: Explain the use of `ifelse` statements in PHP.

A: The `ifelse` statement is used for conditional execution of code. If the condition is true, the code inside the `if` block executes; otherwise, the code inside the `else` block executes.

php

```
if ($a > $b) {
    echo "a is greater than b";
} else {
    echo "a is not greater than b";
}
```

Q32: How does a `while` loop work in PHP?

A: A `while` loop keeps executing the code block as long as the specified condition is true.

php

```
$i = 1;
while ($i <= 5) {
    echo $i;
    $i++;
}
```

Q33: How can you use PHP to create a table dynamically with looping?

A:

php

```
echo "<table>";
for ($i = 1; $i <= 5; $i++) {
    echo "<tr><td>Row $i</td></tr>";
}
echo "</table>";
```

Q34: Explain how you can display different content in HTML based on a condition using PHP.

A: You can use PHP `ifelse` conditions within HTML to display different sections of content based on conditions.

php

```php
if ($user_logged_in) {
    echo "<p>Welcome back, user!</p>";
} else {
    echo "<p>Please log in.</p>";
}
```

Q35: What is a function in PHP?

A: A function is a block of code that performs a specific task. It is reusable and can be called whenever needed.

Q36: Write a simple function in PHP.

A:

php

```php
function greet($name) {
    return "Hello, " . $name;
}
echo greet("Alice");
```

Q37: Explain call by value with an example.

A: In call by value, a copy of the variable is passed to the function. Modifications inside the function do not affect the original variable.

php

```php
function addValue($num) {
    $num += 5;
```

```php
    }
    $a = 10;
    addValue($a); // $a remains 10
```

Q38: Explain call by reference with an example.

A: In call by reference, a reference to the variable is passed. Modifications inside the function affect the original variable.

php

```php
    function addValue(&$num) {
        $num += 5;
    }
    $a = 10;
    addValue($a); // $a becomes 15
```

Q39: What is a recursive function?

A: A recursive function is a function that calls itself. It is used when a problem can be broken down into smaller subproblems of the same type.

Q40: Give an example of a recursive function.

A:

php

```php
    function factorial($n) {
        if ($n <= 1) {
            return 1;
        } else {
            return $n * factorial($n  1);
        }
    }
    echo factorial(5); // Outputs 120
```

Q41: How can you concatenate two strings in PHP?

A: You can concatenate strings using the `.` operator.

php

```
$first = "Hello";

$second = "World";

$greeting = $first . " " . $second;
```

Q42: Write a PHP function to find and replace a word in a string.

A:

php

```
$text = "I love PHP";

$new_text = str_replace("PHP", "coding", $text);

// Outputs: I love coding
```

Q43: What does the `strlen()` function do?

A: `strlen()` returns the length of a string.

php

```
echo strlen("Hello"); // Outputs: 5
```

Q44: How do you convert a string to lowercase in PHP?

A: You use the `strtolower()` function.

php

```
echo strtolower("HELLO"); // Outputs: hello
```

Q45: How do you open a file in PHP?

A: You use the `fopen()` function to open a file. It takes the file name and mode (e.g., `"r"` for reading, `"w"` for writing) as arguments.

php

```php
$file = fopen("example.txt", "r");
```

Q46: How do you close an open file in PHP?

A: Use the `fclose()` function to close an open file.

php

```php
fclose($file);
```

Q47: How do you copy a file in PHP?

A: You use the `copy()` function to duplicate a file. Example:

php

```php
copy("source.txt", "destination.txt");
```

Q48: How can you rename a file in PHP?

A: The `rename()` function is used to rename a file. Example:

php

```php
rename("oldname.txt", "newname.txt");
```

Q49: How do you delete a file in PHP?

A: Use the `unlink()` function to delete a file.

php

```php
unlink("file.txt");
```

Q50: How do you create a directory in PHP?

A: You use the `mkdir()` function. Example:

php

```
mkdir("new_folder");
```

Q51: How do you delete a directory in PHP?

A: The `rmdir()` function deletes an empty directory.

php

```
rmdir("new_folder");
```

Q52: How do you create a file upload form in PHP?

A:

html

```
<form action="upload.php" method="post" enctype="multipart/formdata">
  <input type="file" name="file">
  <input type="submit" value="Upload">
</form>
```

Q53: How do you handle file uploads in PHP?

A: Use the `move_uploaded_file()` function to move the uploaded file to a new location.

php

```
if (move_uploaded_file($_FILES["file"]["tmp_name"], "uploads/" . $_FILES["file"]["name"])) {
  echo "File uploaded successfully.";
} else {
  echo "File upload failed.";
}
```

Q54: What is a session in PHP?

A: A session allows you to store user information across multiple pages. It uses a unique session ID to track user data.

Q55: How do you start a session in PHP?

A: Use the `session_start()` function at the beginning of your script.

php

```
session_start();
```

Q56: What is a cookie in PHP?

A: A cookie is a small file stored on the client's browser that contains information about the user's activity or preferences.

Q57: How do you set a cookie in PHP?

A: Use the `setcookie()` function.

php

```
setcookie("username", "JohnDoe", time() + (86400 * 30), "/");
```

Q58: How can you use cookies to store session IDs in PHP?

A: PHP uses cookies by default to store session IDs. You can configure cookie parameters using `session_set_cookie_params()` before starting the session.

Q59: How do you delete a cookie in PHP?

A: To delete a cookie, set its expiration time in the past.

php

```
setcookie("username", "", time()  3600, "/");
```

Q60: How do you register a session variable?

A: After starting a session, you can register a session variable as follows:

php

```php
$_SESSION["username"] = "JohnDoe";
```

Q61: How do you connect to a MySQL database using PHP?

A: Use the `mysqli_connect()` function.

php

```php
$conn = mysqli_connect("localhost", "username", "password", "database");
```

Q62: What is the purpose of the `mysqli_query()` function in PHP?

A: It executes an SQL query against the database.

php

```php
$result = mysqli_query($conn, "SELECT * FROM users");
```

Q63: How do you insert data into a MySQL table using PHP?

A:

php

```php
$sql = "INSERT INTO users (name, email) VALUES ('John', 'john@example.com')";
mysqli_query($conn, $sql);
```

Q64: How do you update records in a MySQL database using PHP?

A:

php

```php
$sql = "UPDATE users SET email='newemail@example.com' WHERE name='John'";
mysqli_query($conn, $sql);
```

Q65: How do you delete records from a MySQL table using PHP?

A:

php

```php
$sql = "DELETE FROM users WHERE name='John'";
mysqli_query($conn, $sql);
```

Q66: How do you create a parameterized query in PHP using prepared statements?

A:

php

```php
$stmt = $conn>prepare("SELECT * FROM users WHERE email = ?");
$stmt>bind_param("s", $email);
$stmt>execute();
```

Q67: Why are parameterized queries used in PHP?

A: Parameterized queries help prevent SQL injection attacks by separating SQL code from the data being passed.

Q68: What is a join in SQL?

A: A join is used to combine rows from two or more tables based on a related column.

Q69: Explain a cross join with an example.

A: A cross join returns the Cartesian product of two tables.

sql

```sql
SELECT * FROM table1 CROSS JOIN table2;
```

Q70: What is an inner join?

A: An inner join returns only the rows where there is a match in both tables.

sql

```sql
SELECT users.name, orders.product
FROM users
```

```sql
INNER JOIN orders ON users.id = orders.user_id;
```

Q71: How do you perform an outer join in SQL using PHP?

A: PHP itself doesn't perform joins, but it can execute SQL queries that perform outer joins.

sql

```sql
SELECT users.name, orders.product
FROM users
LEFT JOIN orders ON users.id = orders.user_id;
```

Q72: How do you destroy a session variable in PHP?

A: Unset the specific session variable.

php

```php
unset($_SESSION["username"]);
```

Q73: How do you destroy an entire session in PHP?

A: Use `session_destroy()` after starting the session.

php

```php
session_start();
session_destroy();
```